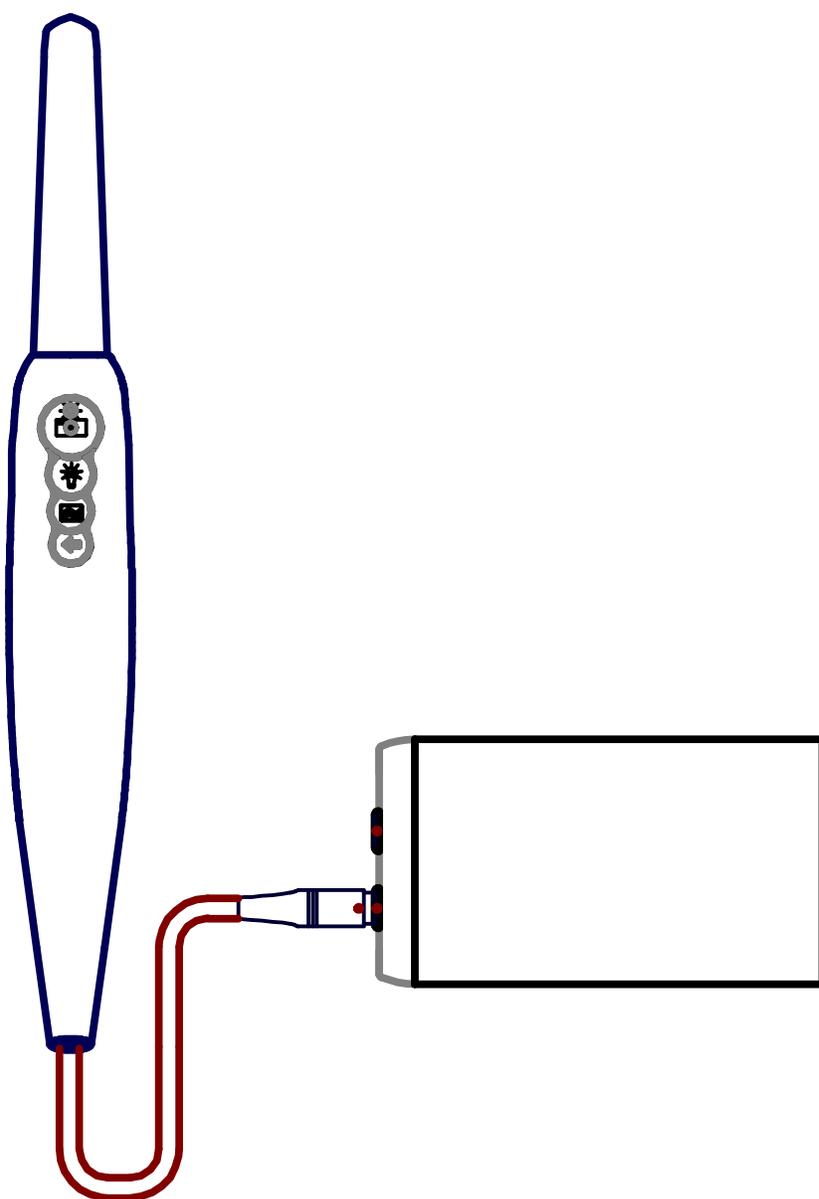


Imagin Systems ImageMaster User Guide



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Printed in the USA

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Warning!

- To prevent fire or shock hazard, do not expose the system to rain or moisture.
- There are no user serviceable components. Refer servicing to Imagin Systems Corporation.

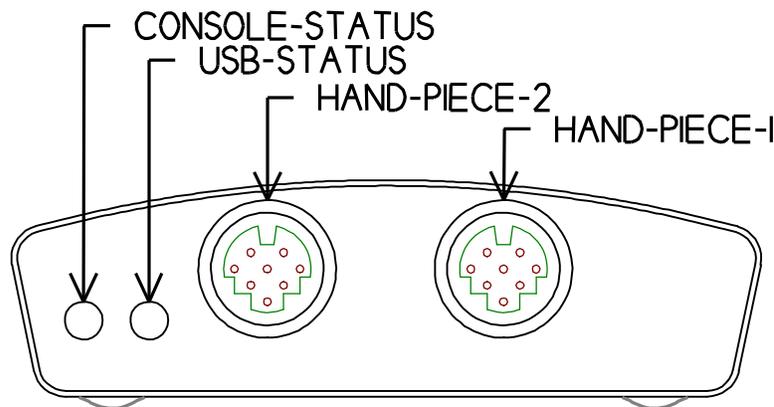
Introduction

The ImageMaster camera system is available with many optional features which include: Capturing to a PC via a serial port or game port, capturing to a video printer with intraoral and/or extra-oral hand-pieces.

ImageMaster Console

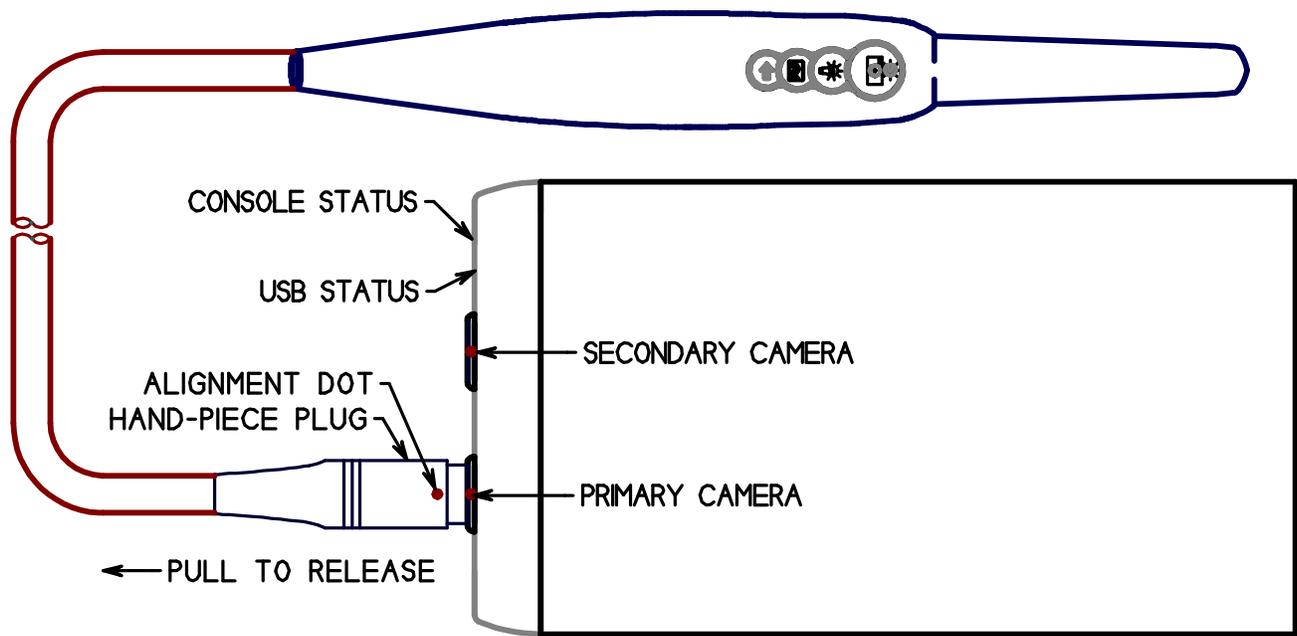
The Console front panel has one connector, two LED indicators to the left of the hand-piece connectors. The LED's indicate the Console status. The left most LED shows power on and camera status (yellow console has power; green camera is out of holder and active). The LED to the right, closer to the hand-piece connector shows the USB status (blue the USB driver is running in the PC).

The two hand-piece connector can accept either intraoral or extra-oral cameras. The only difference between the two is the one on the right take priority, that is any time you take hand-piece-1 out of it's holder it will be the active camera. To get hand-piece-2 working hand-piece-1 must be in a holder, hand-piece-2 be out of a holder.



ImageMaster Hand-piece

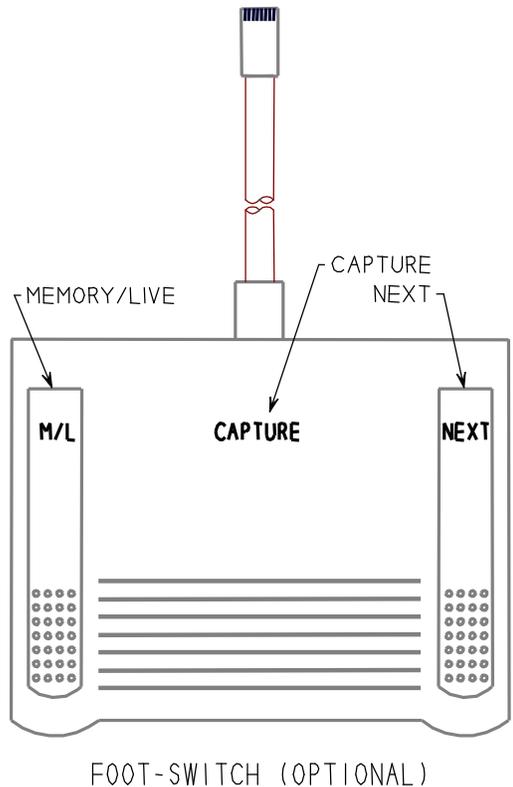
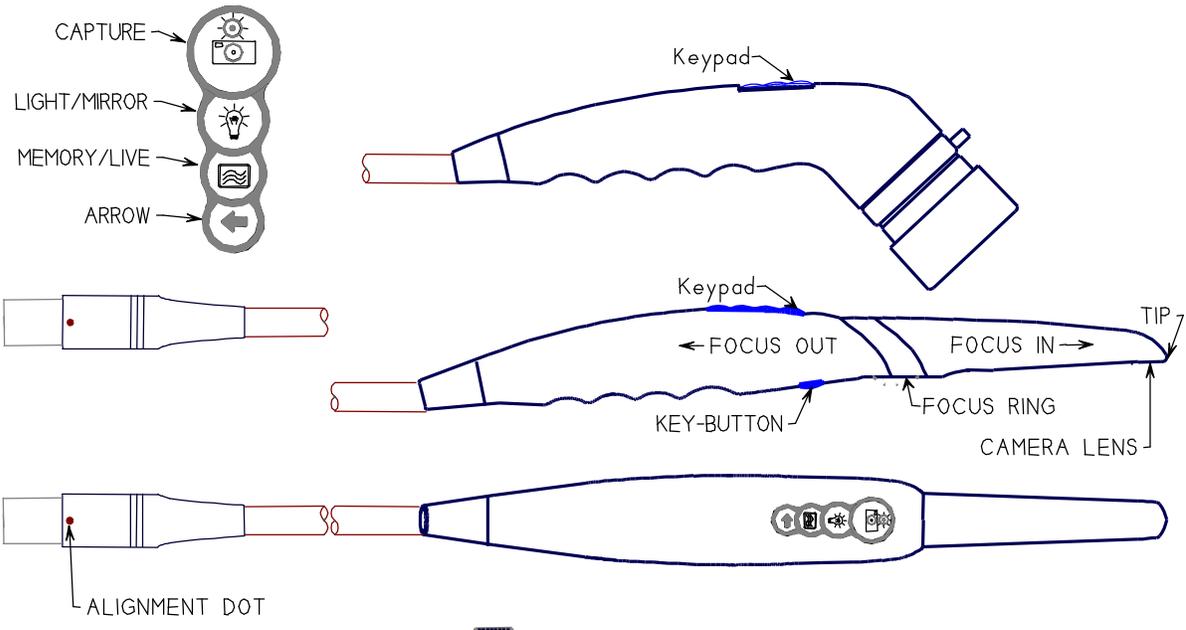
You can plug an intraoral or an extra-oral hand-piece into the hand-piece connector. Carefully locate the dot on the hand-piece connector and align with the dot on the front-panel connector, then plug-in. To remove the hand-piece connector pullback on the connector plug.



ImageMaster CONSOLE TOP VIEW

The switches on the ImageMaster hand-piece and/or foot-switches can control a PC via USB, serial port or game port, and/or a video printer. Capturing via USB depends on the software on the PC. When ordering your Console, you must specify the type of video printer you want to control and/or if you want the PC serial and or game port features enabled or disabled. This effects how the console is configured at the factory.

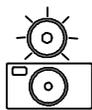
In the drawing below, you see the keypad location for both the extra-oral and intraoral hand-pieces. On the intraoral hand-piece, the focus button is located on the lens side of the hand-piece. To focus in close you move the button toward the tip, to focus out you move it away from the tip. Most likely you will find a position that generally works for you that you will leave at most of the time, but don't forget it is an adjustable focus intraoral hand-piece. The switch functions are described below.



ImageMaster Hand-piece and/or Foot-switch Operations

The hand-piece switches and foot-switches can be thought of as connected together, that is, if you press the capture switch on the hand-piece or the foot-switch the same action occurs. In the switch descriptions, there are different devices the switches may be controlling, depending on installed options and your specific configuration. E.G., video printer, and/or computer

There are three modes of switch operations. The capture switch only does that. The Arrow, Light/Mirror switches have two different functions based if the switch is pressed for a short or a long time (greater-than 2 seconds). And the Memory/Live switch currently has no function. **NOTE:** The Light/Mirror switch is only on the hand-piece.



Capture Switches:

PC: Captures to PC, how this is done depend on the PC's software and how it is setup.

Hitachi, Mitsubishi and Sony video printers: Capture image to printer's memory.

Arrow Switch (Greater-than 2 seconds):



This controls the on-screen arrow (pointer) function. Pressing the arrow switch once for more than 2 seconds turns the on-screen arrow on. The arrow is located in the center of the screen. If you press the arrow switch again for more than 2 seconds, it will turn off. The default is arrow off.

Hitachi, Mitsubishi and Sony video printers: Not Used

Memory/Live Switch:



PC: Instructs the PC that you want an alternate function (e.g., transfer a captured image to the patients file). How this is done depend on the PC's software and how it is setup.

Hitachi, Mitsubishi and Sony video printers: Not Used

Light/Mirror Switch (Less-than 1 second):



With the hand-piece off its holder, pressing the light switch shortly puts the displayed image in monochrome (i.e., black & white) and turns off the light. Pressing again shortly leaves the display in monochrome and turns the lights on. Pressing again shortly puts the display in color and turns the lights off. Pressing again shortly leaves the display in color and turns the lights on. If you put the hand-piece back on its holder this will automatically put the hand-piece back into color mode and the light will come on the next time you remove the hand-piece from its holder.

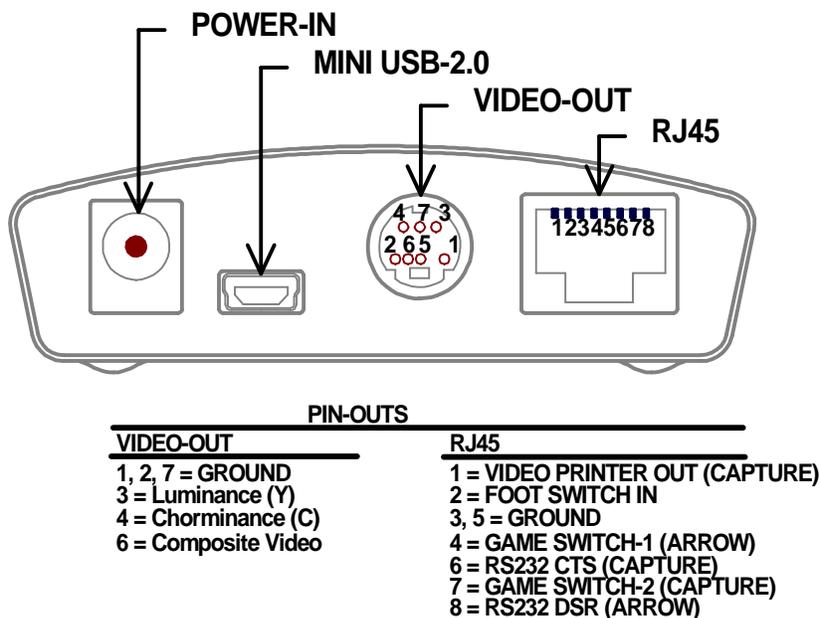
Light/Mirror Switch (More-than 2 seconds):



Pressing the light switch for more than two seconds will mirror the image left-to-right, pressing again will switch the image back to normal view. This normal/mirrored setting is remembered even if the power is removed.

Console Rear-panel

All connections, except for the hand-piece, are made at the rear of the Console. Looking at the rear, the connectors from lower right to left are: RJ45 input/output, USB-2.0 output, composite video output and power input. Above and to the center are two four-pin mini-din connectors. The lower one is s-video output, and the upper one is s-video input. These connectors are described in more detail below.



RJ45: This eight-pin RJ45 connector is for an optional foot-switch(s) to control the freeze-frame, or for the ImageMaster to control capturing on a PC and/or a video printer from either the hand-piece switches and/or optional foot-switch(s).

USB: This is a MINI USB2.0 connection, which connects the USB capture to the PC. Note: There must be an USB-2.0 port on the PC for performance reasons.

Analog video-out: This 7-pin mini-din connector outputs s-video to be connected to the s-video input of a monitor, video printer or computer capture card input. This 7-pin mini-din is commonly known as a GEO port, to get composite video (RCA connector), an adapter is required. There are two versions of this adapter; one which just brings the composite video to an RCA connector (included), and a second type which has both S-video and composite video RCA, which is a special order. Both s-video and composite video are designed for standard 75 ohm termination.

Power input: This 2-pin connector connects the Console to the Imagin supplied ImageMaster power pack. Do not use any other power pack.

Supported Video Printers

The Console supports the following video printers and features.

Hitachi Models: VY-170 & VY-190

Sony Models: UP-1200, UP-20 & UP-21

Mitsubishi Models: CP-910

Applying a Sheath (Intraoral Camera)

Although OSHA standards state that a camera can be disinfected with the solution of your choice, patients and doctors alike prefer the use of sheaths for all asepsis concerns.

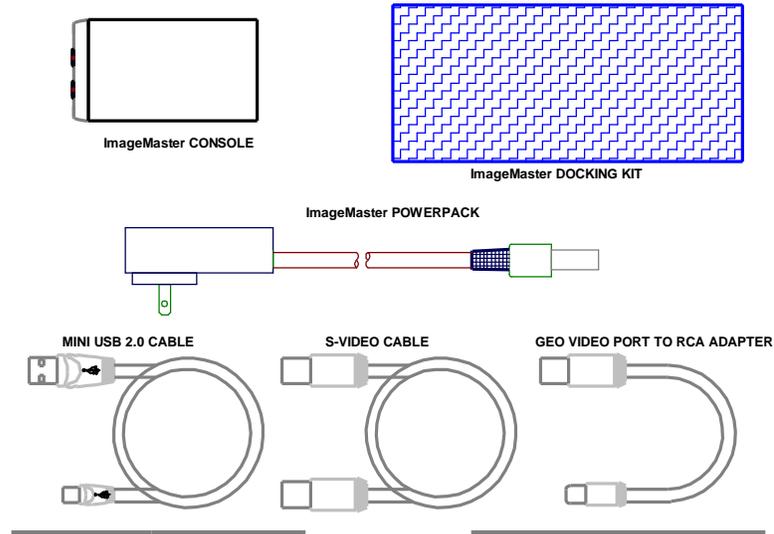
- A. Align the camera with the light facing toward the paper on the sheath. The camera slides between the bottom of the sheath and the white tab.
- B. Slide the camera all the way to the end of the sheath until it releases from the wrapper. This will ensure a good tight fit.
- C. Next peel away the paper from the top to ensure that no wrinkles are created in the process. If a *wrinkle does occur simply pull down on the sheath to stretch the plastic around the lens.*

Note: *If you chose to forgo the sheath and disinfect between patients – **DO NOT USE SOLUTIONS CONTAINING IODINE.** This will stain the camera and is not covered by your warranty.*

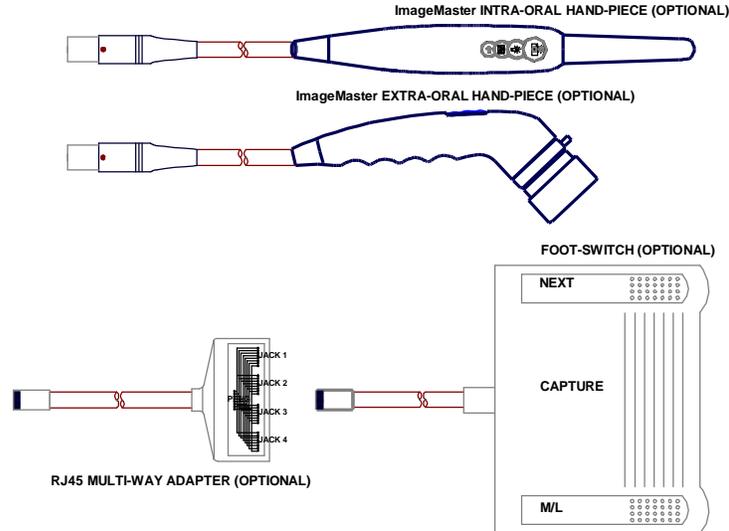
Installing your ImageMaster system

You should have received a box containing the Console, Console docking plate, and ImageMaster power pack. Also, an intraoral and/or extra-oral hand-piece(s) may have been included if they were ordered on the same order. Below is a drawing showing the pieces, so you can identify and verify them. We hope you enjoy your ImageMaster system, let get started.

IN THE BOX PARTS



OPTIONAL ACCESSORIES



In planning the installation of your ImageMaster system, first figure out where it's going to be placed and the orientation of the console. Some things to check; make sure the hand-piece will reach. If you are thinking of mounting the console on a wall or side of cabinet, it is recommended you do so horizontally, so you can see the LED's and see the correct orientation when installing the hand-piece connector. As you get your cables in-place, make sure you label the S-video cable(s) as to which S-video connector they are going to. The other cables are self-identifying as they are all different from each other, but it would not hurt to label them also.

Product Specifications

Console

Equipment Model	ImageMaster
Weight	0.23Kg (0.5 lbs.)
Width of Console	73 mm (2.875 inches)
Height of Console	23 mm (0.875 inches)
Length of Console	108 mm (4.25 inches)
Power Consumption	1.25 Amps @ 5.0 Volts DC, 2.5mm center positive
Video outputs	S-video 75 Ohm (NTSC or PAL) Composite Video 75 Ohm (NTSC or PAL)
USB	Mini USB-2.0

Camera (Intraoral hand-piece)

Equipment Model	ImageMaster
Width of Hand-piece	24.5 mm (1.00 inches)
Height of Hand-piece	24.5 mm (1.00 inches)
Length of Hand-piece	230 mm (9.00 inches)
Length of Hand-piece cable	2 meters (80 inches)
Resolving Power	200 LP/mm
Angle of View	80°
Direction of View	90° to hand-piece center
Focal Range	1mm to infinity
Charged Coupled Device	1/3 inch, High-resolution color

Camera (Extra-oral hand-piece)

Equipment Model	ImageMaster
Width of Hand-piece	24.5 mm (1.00 inches)
Height of Hand-piece	24.5 mm (1.00 inches)
Length of Hand-piece	175 mm (6.875 inches)
Length of Hand-piece cable	2 meters (80 inches)
Direction of View	45° to hand-piece center
Focal Range	10 mm to infinity
Charged Coupled Device	1/3 inch, High-resolution color

Power Pack

Equipment Model	ImageMaster
Weight	0.45Kg (1 lbs.)
Width of Power-Pack	110 mm (1.81 inches)
Height of Power-Pack	80 mm (1.26 inches)
Length of Power-Pack	110 mm (3.3 inches)
Length of cable	1.500 mm (59 inches)
Input Voltage and Power	100-240 VAC @ 47-63Hz, 0.5 Amps

Warranty

Our standard warranty covers all parts and labor for a period of two years from the date of shipment for the Imagemaster USB camera only. Warranties do not cover damage due to mishandling, abuse or neglect by customer of equipment purchased. Customer is responsible for all shipping costs for warranted items. This warranty includes all, but only, those items stated above and does not cover loss of income from downtime. No other expressed or implied warranty beyond that which is stated herein.